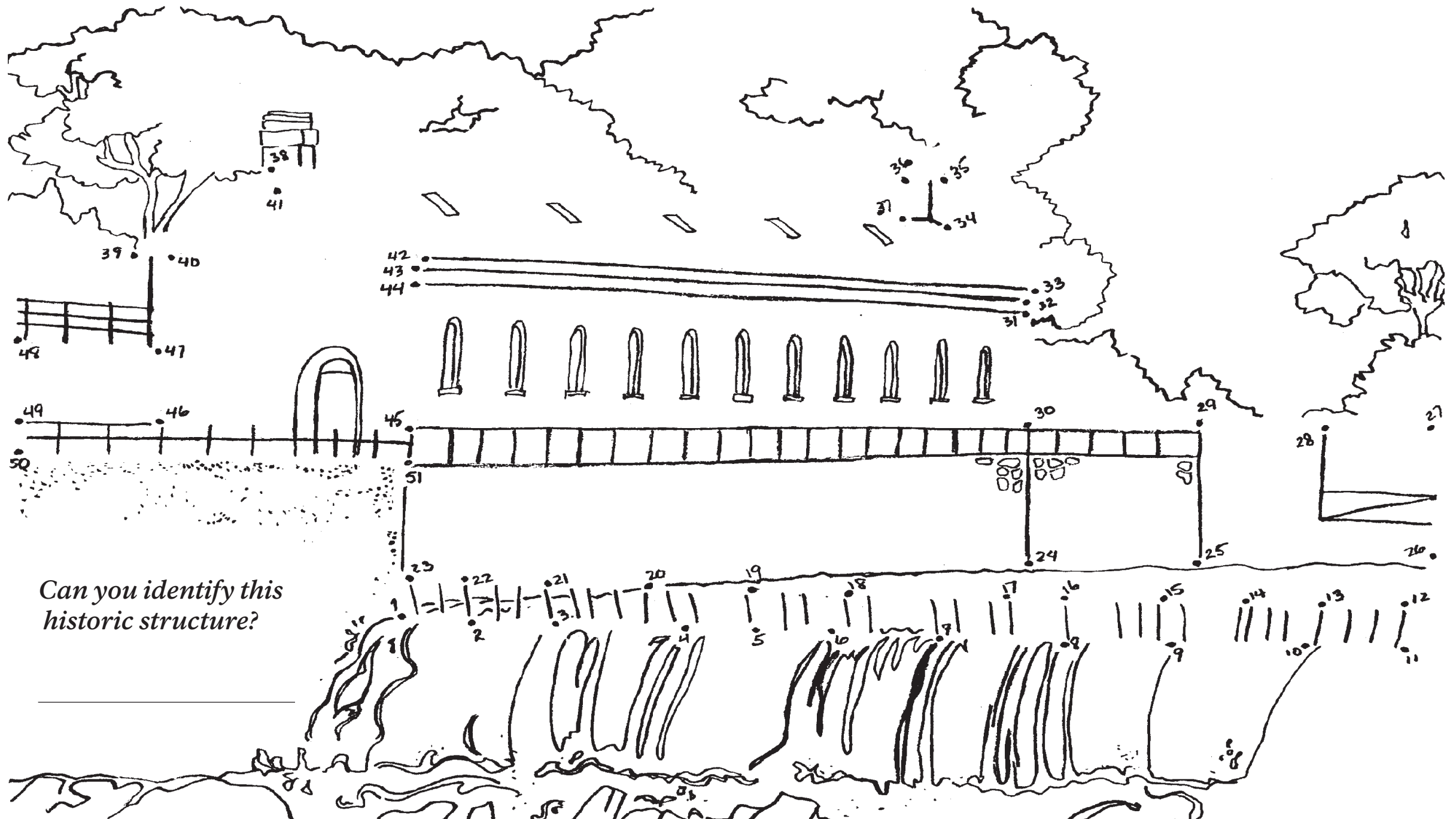


Connect the Dots



Boott Cotton Mills Museum

Second Floor

(Look for the life-sized children with red aprons.)

There were many steps cotton went through before being turned into cloth. Many of these steps could be done by hand as well as by the machines in this exhibit.

1) **Try hand carding.** Is hand carding easy or hard? On the farms you would have helped your parents make cloth by carding wool by hand. In the mills, the big carding machine carded the cotton very quickly. **Which way looks safer? Which way looks easier?**

2) **Try hand spinning.** After cotton was carded, it was spun into thread - making it stronger. In mills, this was done on a spinning *frame* but on farms this was done on a spinning *wheel*. You can find a spinning wheel in the museum. **Name two differences between the spinning wheel and the spinning frame.**

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3) **Try hand weaving.** This is the process that makes cloth. Find one thing that is the same on both the hand loom and the power loom.

Boott Cotton Mills Museum

First Floor

1) Front Desk Area

Find the city model of Lowell in 1876. What are the **red** buildings? What are the **blue**? Find the **Boott Cotton Mills** button on the model. This is where you are now. You can also find the **Suffolk & Tremont Mills** where you may have visited earlier. The **Lowell Manufacturing Company** is the location of the Visitor Center.

2) Spindle City Display

Find the photographs of mill workers on the wall behind the model of Lowell. Study their faces, their expressions, and their body language. How do you think mill workers felt about working here? What words could describe their feelings?

3) The Weave Room

Today, weavers operate power looms to show park visitors how they work. If this were an actual factory, this room would be very hot and humid, and the air would be filled with cotton dust. All of these looms would be operating - imagine the noise! As you watch them making cloth, look underneath the looms. **What do you see? Would you like to work here?**

Write down three words that you would use to describe the weave room to a friend or family member.

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Mill City Word Search

Answers are forward, backwards or diagonal.

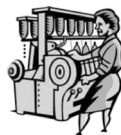
c i s h u t t l e r u l
l a s t i t l h s e b e
o u n i n e y n u w a d
t s t a w e t t o o b e
h t i o l r t r h p o r
o n l l r b a e g r w r
o a o t u r b i n e e a
k r a p l a n o i t a n
t g o l r o t h d a v g
o i i r o r o h r w e e
r m m e r r i m a c k r
w m e i n o t t o c r a
l i u e t g e w b a s r

- merrimackloomweaveranger
- canalimmigrantswaterpowernational park
- millcottonboottcloth
- turbinetrolleynowellshuttle

Boott Cotton Mills Bingo

Try to find the answers to these questions while looking around the museum. You get a “Bingo” if you can find the answers to four questions in a row either up and down, across or diagonally.

What is a nickname for the City of Lowell? _____	Which people picked the cotton before the Civil War? _____	What did Paul Moody build with Francis Cabot Lowell? _____	What high-tech company produced computers in Lowell? _____
Name an Asian country that currently produces textiles _____	What is the date on the seal of the Boott Cotton Mills? _____	What was the original name of the City of Lowell? _____	What design is on the “mill girl” dress? _____
Who is the Boott Mills named after? _____	Name a type of fabric made in the Boott Mills. _____	Where was the carding frame made? _____	Where did Francis Cabot Lowell build his first mills? _____
How many steps in the “Bale to Bolt” process? _____	Who was the first “mill girl”? _____	What tool does a drawing-in girl use? _____	What year did the Boott Mills close? _____



Extra Activity:
Practice “Drawing In” in the Boott Museum.

Mill Girls Exhibit

The first workers in the mills were young women who came from New England farms. Much of what we know about the mill workers comes from old letters. Fill in the letter below.

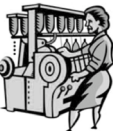
January 15, 1845

Dear Brother,
I received your letters last evening, and will now try and answer your questions as well as I can. The girls I room with are all from Vermont and good girls too. They have come to work here for many different reasons, including: _____

I live in a nice house, have enough to eat and that which is good enough. My favorite food so far is _____. I like my boarding place very well. Our keeper, Mrs. Mathews, spends her days in a variety of chores such as _____. After work we explore many hobbies and interests. I particularly enjoy _____. I have been careful with my earnings, but I have recently purchased for myself _____.

If I thought I could make a decent living back home I would come back there but I must work where I can get more pay. Write as soon as you can & as often as you feel like it. I always want to hear from you.

Yours, _____



Extra Activity:
Listen to the conversation in the Mill Girls' Bedroom.



City Hall



St. Anne's Church



Old City Hall



Kirk St. Agents House



Moody St. Feeder Gatehouse



Lower Locks

Downtown Scavenger Hunt

Here is an activity that you can do while visiting the City of Lowell. In Lowell, the park is the city and the city is the park. Lowell was a planned Industrial City. Its founders carefully created a system of mills, canals, housing, streets, and public buildings that were designed to work together. The whole city was created to do one thing: to make cloth, on a large scale.

As you walk or ride around Lowell today, look for the historic objects in the pictures below. Check them off if you see them.



Trolley



Mill Girls & Immigrants Exhibit



Boott Cotton Mills



Locomotive 410



Extra Activity:
Walk the Canalway Trail or Riverwalk.

Immigrants Exhibit

As you enter the balcony, you will be in the Immigrants Exhibit. Immigrants are people who came here from other countries, and many of them worked here in the mills. Look at the timeline on the wall to your right. Did any of your relatives come from another country? If so, where?

Walk down the stairs and look at the artifacts in the display cases. When immigrants came to America, they brought many items with them. Some items helped them remember where they came from.

- 1) Look around at some of the items people brought with them.
- 2) Search the exhibit and find out why people left their home countries.

Find and check off all 7 items below.

- ☐ Green Dress
- ☐ Straw Hat
- ☐ Violin
- ☐ Buddha Statue
- ☐ Hebrew/English Bible
- ☐ Family Photo Album
- ☐ Typewriter

What jobs were available in Lowell for immigrants?

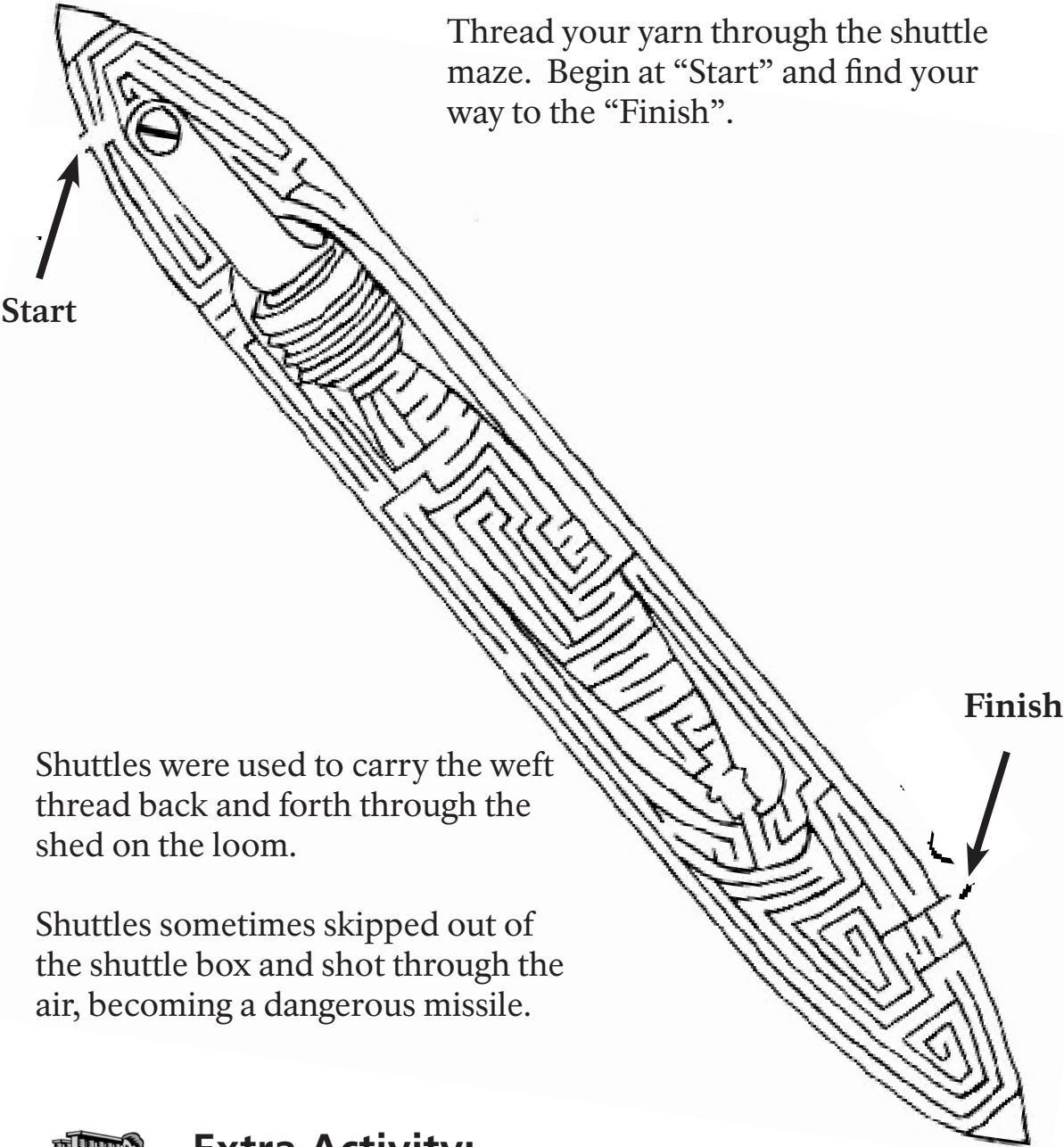
Name 2 different countries people moved away from to live in Lowell.



Extra Activity:
Watch an oral history video.

Shuttle Maze

Thread your yarn through the shuttle maze. Begin at “Start” and find your way to the “Finish”.



Shuttles were used to carry the weft thread back and forth through the shed on the loom.

Shuttles sometimes skipped out of the shuttle box and shot through the air, becoming a dangerous missile.



Extra Activity:
Practice threading a Shuttle in the Boott Museum.

Word Scramble

Unscramble the words in the left column and write them in the spaces below. Clues are located in the right column.

IKREST	_____	When work conditions became worse the mill girls did this.
TLTUSHE	_____	Brings the weft thread across the power loom (moves back and forth).
XTITEELS	_____	Another name for cloth; what the Lowell mills produced.
BTURENI	_____	An improvement of the waterwheel.
NURLSAIIDT TYCI	_____	Lowell quickly grew from a small mill town into this.
TOONTC ING	_____	Eli Whitney’s invention used to clean the seeds out of cotton.
VIDRE LBTE	_____	Used to transmit power directly to the machines in a mill.
GHTEOASUE	_____	Key structure in the canal to monitor and control water.
YLTORLE	_____	Helped the city to grow by providing transportation.
SCALAN	_____	Carried water to the mills so it could be used for power.

Explore the Visitor Center

Start your visit to the park at the Visitor Center on Market Street. The Visitor Center exhibits will tell you stories about the people, places, and history of Lowell.

1) Find the large map of Lowell and count the number of mill buildings. How many mills are located on the map?

2) Find three historic objects or artifacts. Think about how people used these objects and why they are important. Write down the three objects you found.

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3) Watch the video “Lowell: The Industrial Revelation” and answer the following questions:

A. What powered the mills?

B. What did they make in the Lowell mills?

C. Why is Lowell a national park?

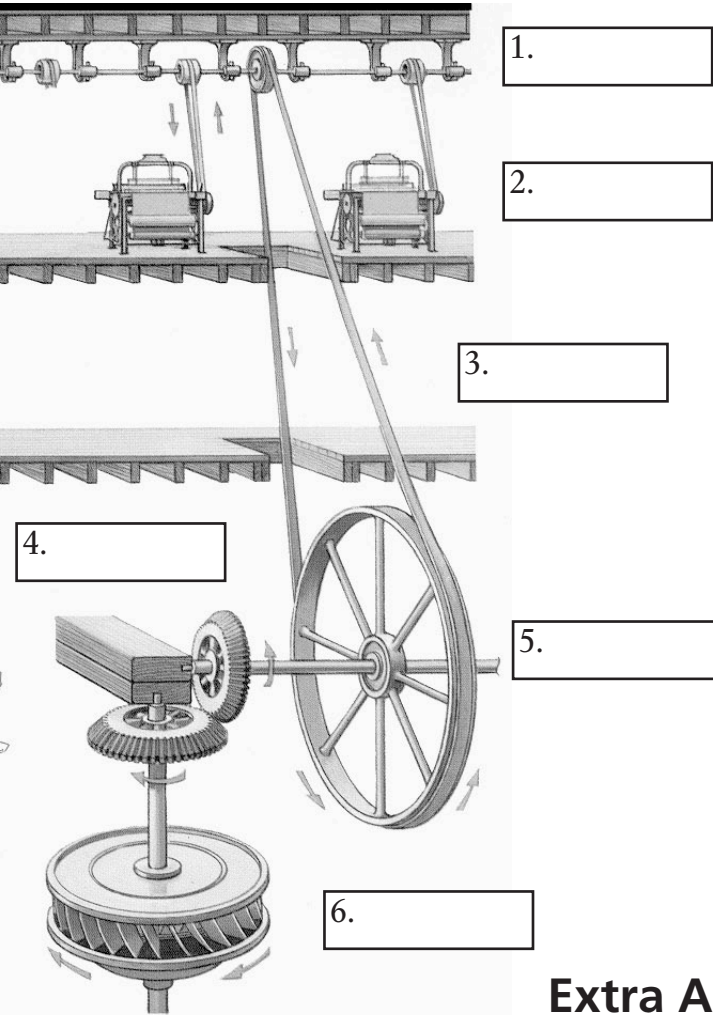


Extra Activity:
Visit the Children’s Corner. Read a book, weave, or experiment with the gears.

River Transformed Exhibit

The River Transformed Exhibit is a great place to learn about power, and how power was used in the mills. Remember that the power to run the machines came from falling water.

Turbines use falling water to create power. Here we can see how the power that was made in the basement moved through the mill to be used by the machines.



Identify parts of the diagram by filling in the correct words from the list below.

- Looms
- Turbine
- Line shaft
- Gears
- Drive Belt
- Flywheel

Extra Activity:
Ride the Trolley to the River Transformed Exhibit.

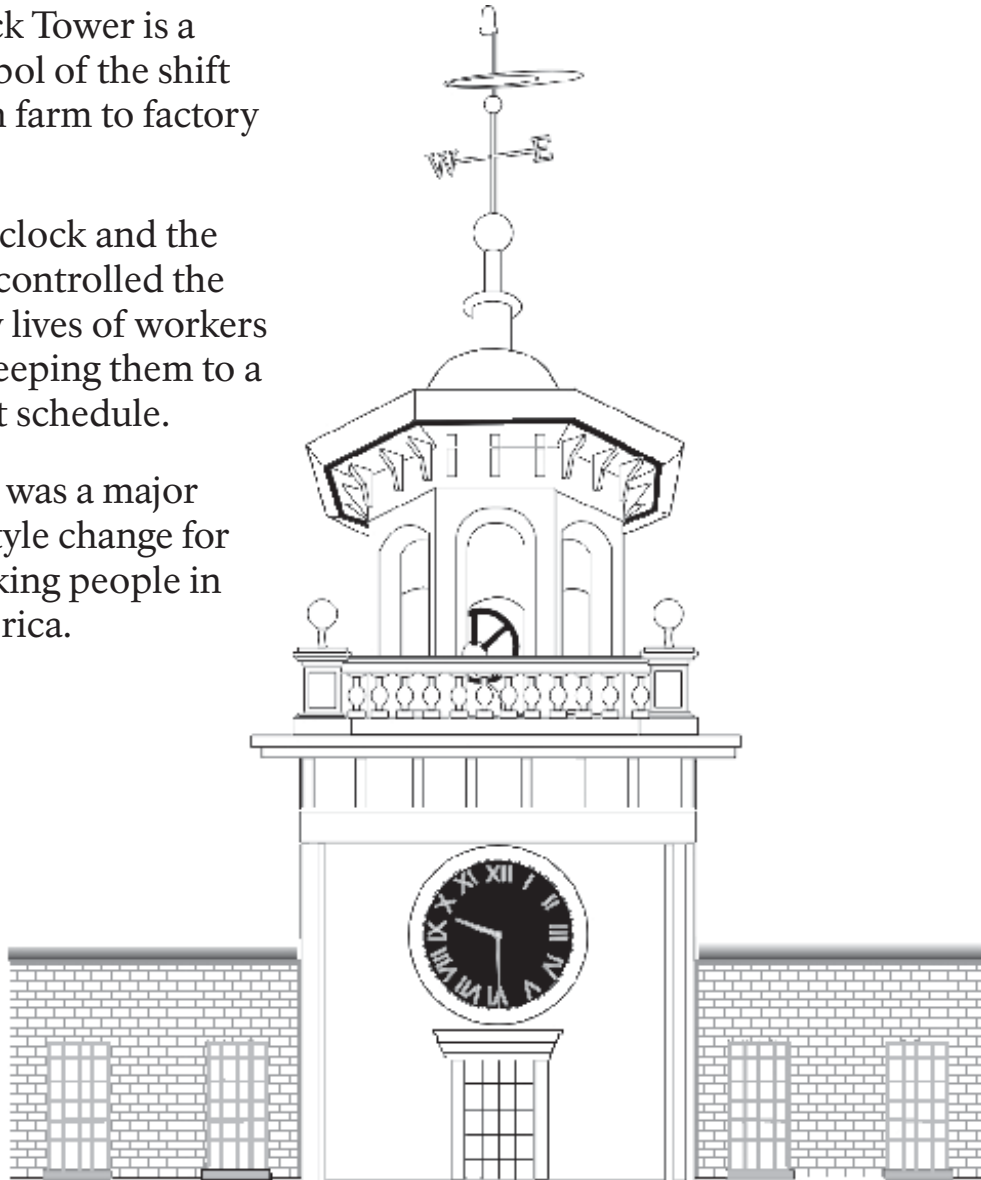


Color the Park

The Boott Mills Clock Tower is a symbol of the shift from farm to factory life.

The clock and the bell controlled the daily lives of workers by keeping them to a strict schedule.

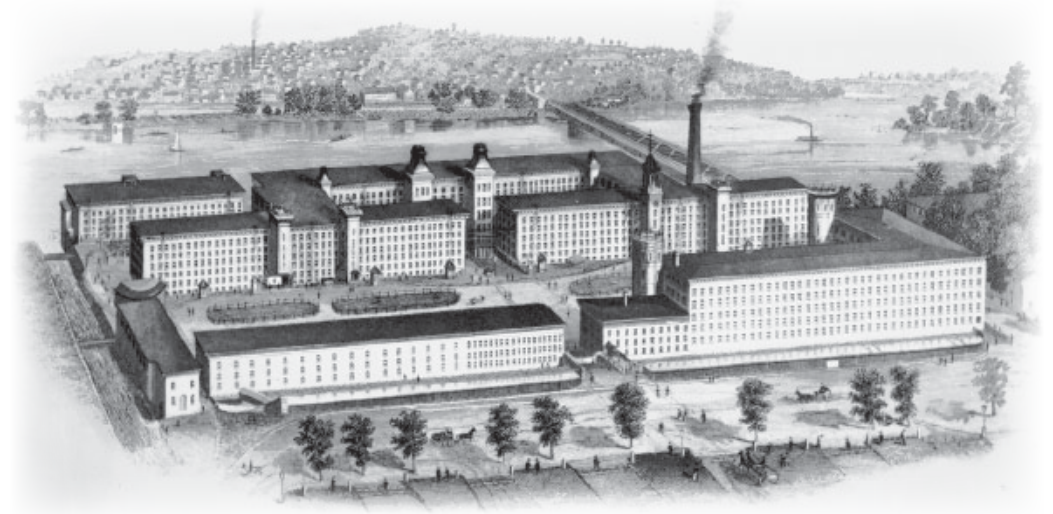
This was a major lifestyle change for working people in America.



Extra Activity:

Take pictures of park buildings and show a ranger.

Welcome to Lowell National Historical Park!



You are at a very special place. This place is so special that the United States made it into a national park.

Lowell National Historical Park was created because what happened here is very important in the history and culture of the United States. The park tells the story of the people and the progress of the American Industrial Revolution. We preserve Lowell today because it holds this story.



The National Park Service preserves and protects our most important natural, historical, and cultural areas. National parks are preserved for the enjoyment and education of present and future generations. This includes you!

As you complete your Junior Ranger book, you will learn about what happened here and why it is important. Have fun and enjoy your visit to Lowell!

Activity Checklist:

Check off each activity as you complete it.

- ☐ Visitor Center
- ☐ Word Scramble
- ☐ Scavenger Hunt
- ☐ Word Search
- ☐ Boott 1st Floor
- ☐ Connect the Dots
- ☐ Boott 2nd Floor
- ☐ Boott Bingo
- ☐ Mill Girls
- ☐ Immigrants
- ☐ Shuttle Maze
- ☐ River Trans. Exhibit
- ☐ Color the Park



Congratulations!

We are proud that you have decided to become a Junior Ranger. Lowell is the home of many stories. These stories can be told by park rangers, found in historic buildings, the museum and exhibits, or on the canals.

To become a Junior Ranger, you must find these stories.

Instructions

- 1) To receive your Junior Ranger badge and certificate, you must complete five pages in this book.
- 2) We suggest completing two “extra activities” - located at the bottom of the page.
- 3) Find a ranger and ask him/her to review your completed book. If your book is complete you will receive a badge and certificate!

Answer Page

Word Scramble

IKREST - STRIKE
 TLTUSHE - SHUTTLE
 XTITEELS - TEXTILES
 BTURENI - TURBINE
 NURLSAHDT TYCI - INDUSTRIAL CITY
 TOONTC ING - COTTON GIN
 VIDRE LBTE - DRIVE BELT
 GHTEOASUE - GATEHOUSE
 YLTORLE - TROLLEY

River Transformed Exhibit

1. Line shaft
2. Loom
3. Drive belt
4. Gears
5. Flywheel
6. Turbine

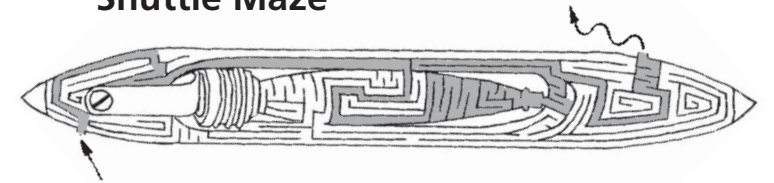
Word Search

c i s h u t t l e r u l
 l a s t i t l h s e b e
 o u n i n e y n u w a d
 t s t a w e t t o o b e
 h t i o l r t r h p o r
 o n l l r b a e g r w r
 o a o t u r b i n e e a
 k r a p l a n o i t a n
 t g o l r o t h d a v g
 o i i r o r o h r w e e
 r m m e r r i m a c k r
 w m e i n o t t o c r a
 l i u e t g e w b a s r

Boot Cotton Mills Bingo

Spindle City	Slaves	Power Loom	Wang Computers
China, Taiwan, India, Vietnam, Philippines	1835	East Chelmsford	Flowers
Kirk Boott	Pick one from the “wall of cloth”	Lowell Machine Shop	Waltham, Mass.
10	Deborah Skinner	Little Steel Hook	1954

Shuttle Maze



Learn More! Become a WebRanger

A WebRanger is: a care-taker, an adventurer, a learner, a seeker, a discoverer. A WebRanger could be...you! You can become a member of a growing group of young people who are interested in the world around them and involved with their nation’s heritage. WebRangers spread their knowledge of National Parks to their friends, families, and schoolmates. Build your own Ranger Station, complete activities, and have fun!



Start online: www.webrangers.us

Park Stamps

National Park Service
U.S. Department of the Interior

Lowell National Historical Park



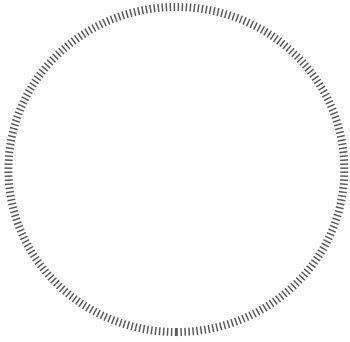
Lowell Junior Ranger

National Park Service
U.S. Department of the Interior

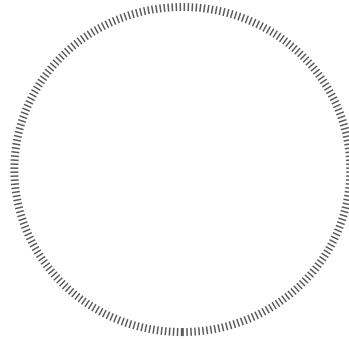
Lowell National Historical Park



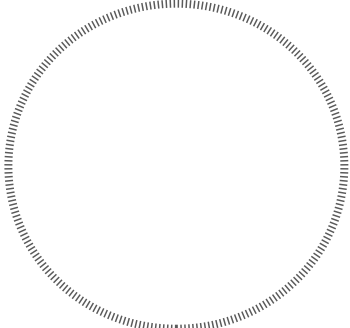
Make your visit to Lowell National Historical Park official!
Participate in the park stamp program. Ask a park ranger for an
official park stamp at any of the following locations. Collect all 8!



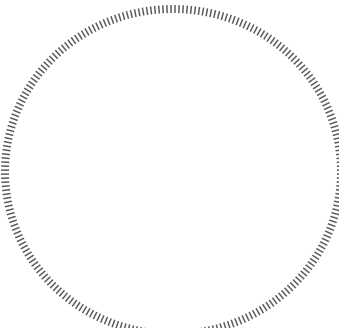
Lowell National Historical Park



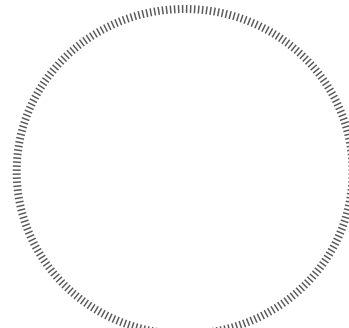
Boott Cotton Mills



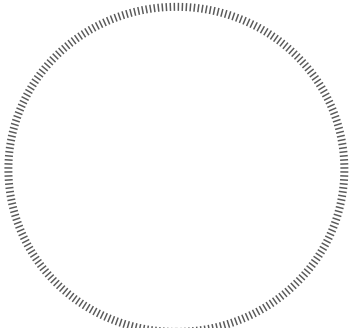
Mill Girls & Immigrants Exhibit



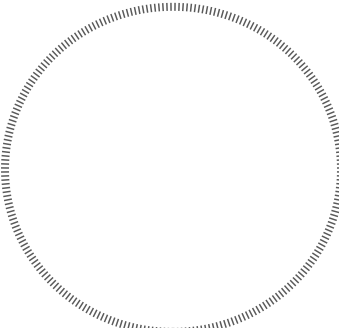
Francis Gate



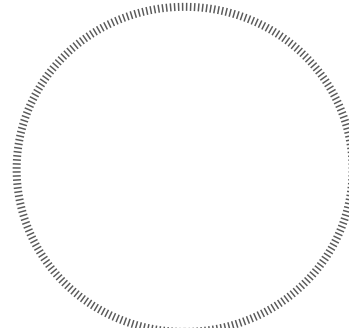
River Transformed Exhibit



Moody Street Feeder Gatehouse

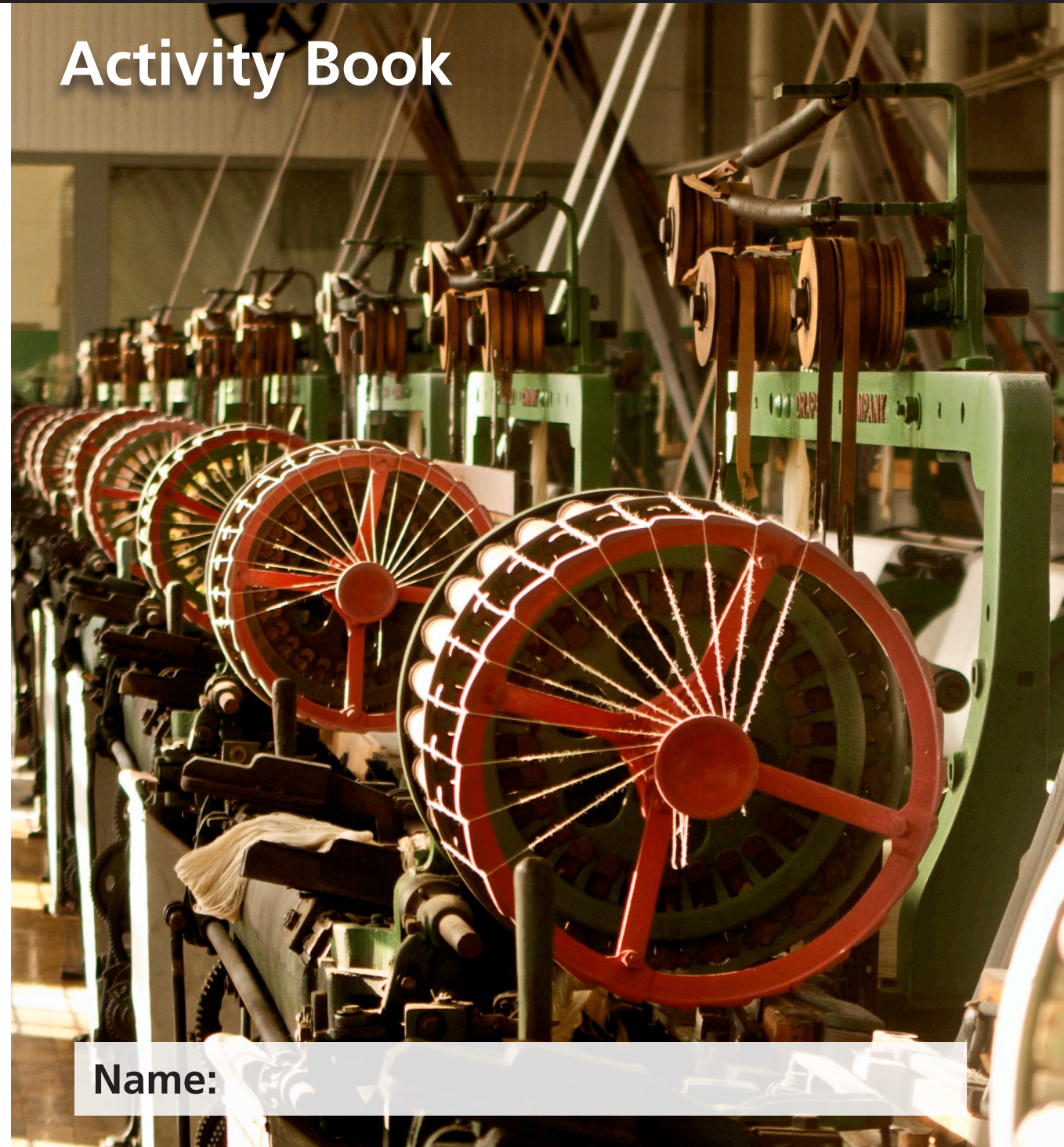


Trolley



Pawtucket Gatehouse

Activity Book



Name: